

Equinor has a business solution that has served us extremely well for 15 years – and still does. This is a solution made by an external vendor that started out as an off-the-shelf solution but was customized by Equinor.

This business solution is enabling core business processes at Equinor and has tight integrations with 18 other solutions across the organization, many of which are critical for Equinor's flow assurance. The system has 500 users, both Equinor employees and externals from suppliers and contractors. Each change requires time-consuming and costly coordination with other teams that must be thoroughly planned.

Both Equinor and the system vendor are constantly running behind the technical developments in the society, including patches, updates, and unsupported components. They struggle to keep up with the rise in cybersecurity threats.

In addition, the business solution was recently moved to the cloud as a lift and move operation to improve disaster recovery. No re-design or re-architecture has been initiated.

It is difficult to attract talent and new team members because of technical debt and outdated technology. The team feels disconnected from the things happening in the digital space at the rest of Equinor and it starts to affect their motivation and confidence.

There is a risk that technology challenges will start to affect our resilience, and the solution owner wants a clear direction and modernization plan.

TO KEEP IN MIND

- How to solve this scenario using Lindesnes' direction? What principles inspire your solution?
- Is something missing from Lindesnes when thinking about a solution? What are these gaps?
- What are the risks of not solving this scenario?
- What are the risks of your solution aligned with Lindesnes' direction?

1 | Scenarios Internal 26 September 2022



Equinor is together with an external Al (Artificial Intelligence) company (through a strategic partnership) seeking opportunities with energy production optimization using operational and artificial intelligence. The aim is to optimize energy production by monitoring turbine performance and predicting failures. They want to move from being reactive to being predictive.

Expectations and ambitions are high, but reality strikes quickly. First, they can't find the data needed to train the machine learning models. Then, when the data is located, the team must spend a lot of time and effort understanding and aligning the data – because different turbines vendors and business systems have different data models and formats.

Data is located on 7 different operational business systems managed by 7 different teams in 4 different business domains. When reaching out to the teams for help and advice, the teams don't have time due to other priorities – they must keep the wheels turning.

Another challenge is that the critical parameters needed are stored in data sheets and documents that must be manually re-entered into the Al software. This takes time and is error prone.

The Al software are running in the cloud as a software service provided by the external company. Therefore, the team must identify relevant laws and regulations and obtain approval to process Equinor data externally. Different business domains have different requirements for the same data type. This is a manual process involving multiple people and due to high demand and low capacity this will take 5 weeks.

The team and the solution owner become increasingly frustrated.

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Equinor wants to gain a competitive advantage in a new emerging energy market and value chain. A digital solution is required to enable one of Equinor's differentiating business capabilities where the market is immature and there are no off-the-shelf digital solutions. Equinor decides to develop the solution in-house.

A solution owner is assigned responsible for ensuring a strategic fit and maximizing value creation from the new digital solution. The solution owner decides to set up a project delivery model to have control over predefined and pre-approved project scope and funding. The project has an estimated duration of 7 months.

Based on the scope defined by the solution owner, a request for 6.5 FTE developers is submitted. However, there is no available capacity, and the solution owner has no time to wait. A team of external consultants is therefore onboarded.

The team of consultants works closely with subject matter experts in the business. They quickly start creating initial solutions to feature requests, get feedback, iterate and improve the solution. The team learns quickly and gains great knowledge and insights into the business domain.

Meanwhile, the solution owner begins to onboard a new team that will take over the run and maintain accountability once the project is complete. The run and maintenance team will work with a different budget.

After 7 months, the digital solution is handed over to the solution owner according to the scope and budget, and the source code and responsibility are handed over to the run and maintenance team who have no knowledge in the business domain.

The consultants have done a brilliant job, and with this learning and new knowledge in a rapidly evolving value chain, they are very attractive in the market. Several of them are employed by Equinor's biggest competitor, where a new long-term team is established to develop and evolve an even more competitive solution.

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A new delivery team is established with a mix of Equinor employees and external consultants, 7 people in total. They will deliver a digital solution to a business capability using an iterative delivery model aligned with WR2916. Team members have never met before and have limited competence in the business domain and are unsure about the business capability they are supposed to enable.

The team's external consultants have limited experience working in a large organization like Equinor. The interns have been employed at Equinor for 15 years, 14 of them at the former GBS IT. They all have a mixed background and are colored by different histories, successes, failures, beliefs, mental models, actions, and rewards.

A product owner and delivery team lead are assigned, and the product owner is prioritizing features and solutions that the team must develop and implement. The product owner is both deciding on prioritized features together with the customer representatives and taking care of the customer dialogue. There's no need to bother the team, they're just there to write code.

The start is overwhelming for the team with a rapid increase in the team's cognitive load. People don't know each other and struggle to navigate Equinor's complex landscape. Which platform is best suited for their needs and purposes? Where do they find documentation and available APIs? Who should they turn to for help and quidance?

The product and solution owner wants results and is pushing features and timelines, but the team meets several different expectations and is pulled in many different directions. They are being challenged in architecture patterns, use of platforms, and use of technologies that the team is unfamiliar with. There's a big focus on cybersecurity and resilience, but they don't know the different responsibilities and best practices on where to start.

The team is having multiple simultaneous interactions with other teams and people: platform responsible, the professional ladder, the product owner, the data owner, and different people with different skills and knowledge who the team needs guidance and help from. They also need to seek a lot of approvals from owners of different datasets and APIs. The team is being measured on lead time, and lead time is gradually increasing.

The team starts to deliver features as best they can and puts security and maintainability on the backlog, with the hopes of being able to address these later.

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